

Amendments to the Specification:

Please replace the paragraph on page 3, line 25, to page 4, line 7, with the following paragraph:

The Soviet document discloses corrosion protection measures by way of the addition of alcohol in the coolant/moderator. The specific concentration disclosed is approximately 10 to 10^5 $\mu\text{mol/kg}$ (\approx 0.32 to 3200 ppm for methanol) in order to completely prevent oxygen formation during the radiolysis of the coolant. In order to ensure this, the disclosed alcohol concentration must necessarily be present at those locations at which the radiolysis processes are the strongest, that is, at the fuel rods in the reactor core.

Please replace the paragraph on page 6, lines 6-10, with the following paragraph:

feeding the alcohol into a primary coolant to establish an alcohol concentration of from 0.1 to 300 $\mu\text{mol/kg}$ (\approx 0.0032 to 9.6 ppm for methanol) in a downcomer, the downcomer extending downward at an opening of the feedwater line, with surfaces of the components still being bright or covered only by a native oxide layer.

Please replace the paragraph on page 6, lines 12-13, with the following paragraph:

In accordance with an added feature of the invention, the alcohol concentration is adjusted to less than 10 μmol per kg (\approx 0.32 ppm for methanol).

Please replace the paragraph on page 7, line 22, to page 8, line 7, with the following paragraph:

The alcohol concentration is maintained at between 0.1 and 300 μmol per kg (\approx 0.0032 to 9.6 ppm for methanol) of the primary coolant and, in a preferred embodiment, it is maintained at less than 10 $\mu\text{mol/kg}$. It is expedient for the alcohol to be fed into the condensate or feedwater system. The quantity which is metered in is in this case such that the abovementioned concentration is established in the downcomer of the boiling water reactor. The downcomer is the area in the reactor pressure vessel which extends downward from the opening points of the feed tubes. It is preferable to use methanol, ethanol and propanol. However, formic acid, formaldehyde, and acetaldehyde are also eminently suitable.

Please replace the paragraph on page 8, lines 9-16, with the following paragraph:

As noted above, the metering-in of alcohol may lead to several disadvantageous results. That is, it is in effect a balancing act between the positive and the negative effects thereof. The instantly claimed invention provides a successful compromise with highly improved corrosion protection while the negative effects of the alcohol are virtually unnoticeable. This is particularly so when the alcohol concentration is maintained at below $10 \mu\text{mol/kg}$ ($\approx 0.32 \text{ ppm}$ for methanol).

Please replace the paragraph on page 9, line 19, to page 10, line 20, with the following paragraph:

Referring now to the figures of the drawing in detail and first, particularly, to Fig. 1 thereof, there is shown a highly simplified illustration of a boiling water reactor. A pressure vessel 1 of the reactor houses fuel assemblies 2 or fuel elements. An alcohol of the above-mentioned type, preferably methanol, is injected into a feedline 3, which continues inside the pressure vessel in the form of an annular distributor line, to protect against corrosion and in particular against stress corrosion cracking (IGSCC). The reactor is in an operating state in which the components of

the reactor, i.e. for example the pressure vessel 1 and the non-illustrated core grid, which usually consist of CrNi steel or an Ni-base alloy, are bright or are covered only with a native oxide layer. The former case occurs, for example, if an oxide layer has been removed from the component surfaces during maintenance work. The quantity injected into the feedline 3 is such that a concentration of from 0.1 to 300 $\mu\text{mol/kg}$ (≈ 0.0032 to 9.6 ppm for methanol) of alcohol, in particular methanol, is established in the downcomer 4 which adjoins the feedline 3 at the bottom. The optimum concentration of alcohol is dependent on various factors, such as the component material, the presence of precious metal doping, etc., and is therefore to be determined on a case-by-case basis for each individual reactor. In a specific embodiment, the concentration is set to less than 10 $\mu\text{mol/kg}$ (≈ 0.32 ppm for methanol) which, in a given context, provides for an acceptable compromise with regard to good corrosion protection and virtually negligible disadvantages otherwise associated with the alcohol.